

the refractive index of the medium is responsive to the applied electric field so that the intensity and/or phase of the light exiting the input-output surface is dependent on the applied electric field.

2. (Amended) An electro-modulating device as claimed in Claim 1, wherein the modulating element is formed from a section of semiconductor wafer and the modulating medium is formed from an active layer on or in the semiconductor wafer, the active layer having a plurality of edges and the input-output surface residing on an edge of the active layer.

3. (Amended) An electro-modulating device as claimed in Claim 2, wherein the modulating medium is an active layer situated between a first layer of conducting semiconductor and a second layer of conducting semiconductor, the first and second layers of conducting semiconductor forming the electrodes for applying a bias across the modulating medium.

4. (Amended) An electro-modulating device as claimed in Claim 2, wherein the electro-modulating device has a mounting surface on which there is mounted the modulating element.

5. (Amended) An electro-modulating device as claimed in Claim 4, wherein the mounting surface has securing means for securing the end portion of an optic fibre such that light from the fibre can be coupled into and out of the modulating medium through the input-output surface.

6. (Amended) An electro-modulating device as claimed in Claim 5, wherein the mounting surface is formed from a silicon substrate having a V-groove etched thereon for receiving the end portion of an optic fibre.

7. (Amended) An electro-modulating device as claimed in claim 4, wherein the mounting surface has a light guide formed thereon for guiding light into and out of the modulating element.

8. (Amended) An electro-modulating device as claimed in Claim 7, wherein the light guide and modulating medium are formed from a continuous layer of semiconductor.

AB 9. (Amended) An electro-modulating device as claimed in claim 1, wherein the modulating element has at least one end wall and the reflector is formed by at least one layer of reflective material deposited on the end wall of the modulator element.

10. (Amended) An electro-modulating device as claimed in claim 2, wherein the modulating medium is formed from a layer of InGaAsP, and each electrode is formed from a layer of conducting InP.

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